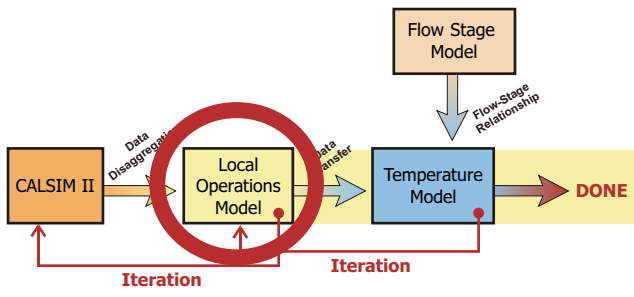


Local Operations

Model for Oroville Facilities (HYDROPS)

Why Local Operations Model (LOM)?

CALSIM II provides a big picture using a monthly time-step

LOM provides detailed analysis on hourly varying parameters

LOM provides optimal hourly operational results for other analyses

LOM's Outputs

Hourly results:

Level and storage for Oroville Facilities

Generation and pumping energy for all turbines and plants

Reservoir spill, Hyatt low-level outlet and Feather River flows

Generation for Oroville Facilities

Weekly results:

Oroville Facilities' power generation

Reservoir level, river flow, plant discharge and spill

LOM (HYDROPS) Characteristics

CALSIM II outputs are used for boundary conditions and targets

Deterministic, linear optimization model

Basic parameters: flow, Reservoir level, and power generation

Hourly time-step for weekly time horizon

HYDROPS: a proprietary model

LOM's Inputs

Physical characteristics and limitations:

Reservoir, Power plants, Spillway, Canal, Turbines, etc.

From CALSIM II and others:

Inflow, diversion, and evaporation

Flood control curve (COE)

Flow and level targets

Energy price index

Operating constraints:

Operating min/max for basic parameters

Stage and flow fluctuation and ramping

Instream flow and licensing restrictions

LOM (HYDROPS) Features

Scenario and Version Concept

A version is a data set for one input data type.

A scenario is a collection of versioned input data of various data types and of the optimized results.

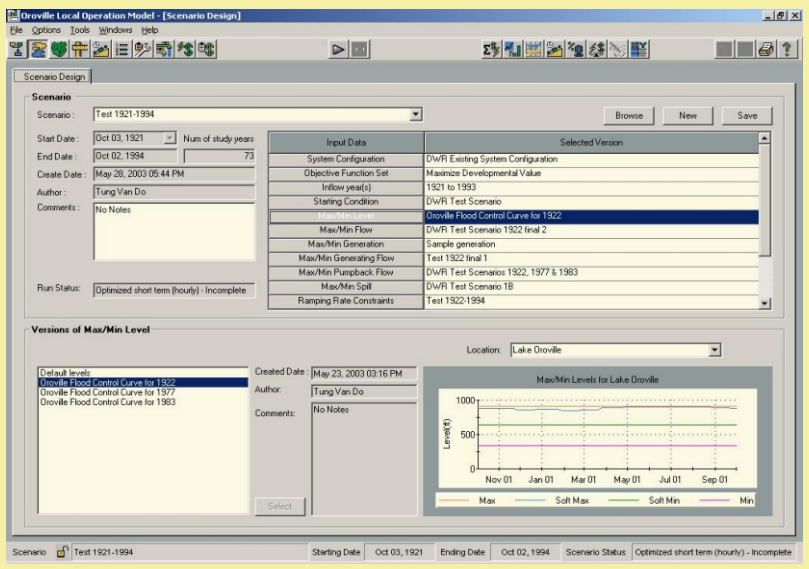
Capability to create and save many study scenarios with minimal data entry.

Soft and Hard Constraints

Hard constraints: physical limits

Soft constraints: desirable operating range

Convenient User Interface



HYDROPS Schematic